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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/885,011	06/21/2001	Kazuyuki Shigeta	35.C15479	4406

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NEW YORK, NY 10112

EXAMINER
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SEFER, AHMED N

ART UNIT	PAPER NUMBER
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2826

DATE MAILED: 11/25/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

37

<b>Office Action Summary</b>	<b>Application No.</b> 09/885,011	<b>Applicant(s)</b> SHIGETA, KAZUYUKI	
	<b>Examiner</b> A. Sefer	<b>Art Unit</b> 2826	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 15 August 2003.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 and 14-19 is/are rejected.
- 7) ☒ Claim(s) 12 and 13 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \* c) ☐ None of:  
         1. ☐ Certified copies of the priority documents have been received.  
         2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
         3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
     \* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
     a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                  | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____                                    |

**DETAILED ACTION**

***Response to Amendment***

1. The amendment filed on August 8, 2003 has been entered; no new claims have been added.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 2, 6, 8-11, 14, 15, 17 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Funatsukuri et al. (JP 2000-98325) in view of Kitano USPN 6,554,454.

Funatsukuri et al. disclose in figs. 1-3 an image display device comprising: an image display element 32 or liquid crystal (as in claim 17) for modulating incident light and displaying an image; and an illumination device for sequentially irradiating with light in each color said image display element, which is adapted to change an image displayed on said image display element in synchronization with the irradiation of the light to thereby recognize the image, wherein said illumination device comprises a light source 1 for emitting white light; a plurality of color filter members 21-23 having a plurality of color area (as in claim 2) being rotatably arranged between said light source and said image display element; and a filter drive means 71d-73d for rotationally driving each of the plurality of color filter members individually, and wherein said illumination device further sequentially converts the white light emitted from said light source into each color of light by rotationally driving said color filter members and

switches image quality of a displayed image by switching said rotationally driven color filter members, but do not disclose a certain color area on said first filter member being different from that on said second filter member.

Kitano teaches (see col. 6, lines 64-67 and col. 7, lines 1-62) the advantage of non-uniform color segments.

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to incorporate Kitano's teachings with the device of Funatsukuri et al since that would provide the desired darkness characteristic without increasing the power of light source as taught by Kitano.

As to claim 6, Funatsukuri et al a plurality of color filter members are arranged so as to overlap each other at least in part.

As to claim 8, Funatsukuri et al disclose filter drive means driving one of the color filter members and stops the other color filter member.

As to claim 9, Funatsukuri et al disclose filter drive means simultaneously rotationally driving the plurality of color filter members.

As to claims 10 and 11, Funatsukuri et al. disclose switching of image qualities by means of the switching of said color filter members is conducted in response to switches.

As to claims 14 and 15, Funatsukuri et al disclose switching of the image quality by means of the switching of said color filter members is conducted in response to a control from a user input or via a communication from an external source (as in claim 15)

As to claim 19, Funatsukuri et al disclose, an image display element a spatial modulation display element having arrayed micro-mirrors 32.

4. Claims 1-3, 5, 6, 10, 11 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Funatsukuri et al. (JP 2000-98325) in view of Hatano et al. US Patent No. 5,805,243.

Funatsukuri et al. disclose in figs. 1-3 an image display device comprising: an image display element 32 or liquid crystal (as in claim 17) for modulating incident light and displaying an image; and an illumination device for sequentially irradiating with light in each color said image display element, which is adapted to change an image displayed on said image display element in synchronization with the irradiation of the light to thereby recognize the image as a full color image, wherein said illumination device comprises a light source 1 for emitting white light; a plurality of color filter members 21-23 having a plurality of color area (as in claim 2) being rotatably arranged between said light source and said image display element; and a filter drive means 71d-73d for rotationally driving each of the plurality of color filter members individually, and wherein said illumination device further sequentially converts the white light emitted from said light source into each color of light by rotationally driving said color filter members and switches image quality of the full color image by switching said rotationally driven color filter members, but do not disclose a certain color area on said first filter member being different from that on said second filter member.

Hatano et al disclose (see figs. 1-3 and 6, col. 5, lines 45-62 and col. 13 lines 25-43) a certain color area on a first filter member 62 being different from that on a second filter member 61.

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to incorporate the teachings Hatano et al with the device of Funatsukuri et al since

that would enable a color display mode to be switched to a high luminescent black-and-white display mode and vice versa source as taught by Hatano et al.

As to claim 3, Hatano et al. disclose the characteristics of said color filter members are mutually different from each other by virtue of the relative portions of the color filter members occupied by each of said plurality of color areas on one color filter member being different from the relative portions occupied by each of said plurality of color areas on the other color filter member.

As to claim 5, Hatano et al. disclose the characteristics of the color filter members are mutually different from each other by virtue of the number of the color areas on one color filter member being different from the number of color areas on the other color filter member.

As to claims 10 and 11, Hatano et al. disclose (see col. 3, lines 33-50), switching of image qualities by means of the switching of said color filter members is conducted in response to switches.

5. Claims 16, 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Funatsukuri et al. in view of Hatano et al as applied to claim 1 above, and further in view of Bohler et al. US PG-Pub 2002/0044445.

The combined references disclose the device structure as recited in the claim, but do not specifically disclose switching of color filter members is conducted automatically.

Bohler et al. disclose in figs. 1, 2, 5 and 6 the advantages of switching color filter members automatically.

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to incorporate the teachings of Bohler et al with the device of the combined references since that would reduce spoke time or time between segments of the color filter.

As to claims 18 and 19, Bohler et al disclose MEMS-type spatial modulation image display element having arrayed micro-mirrors (as in claim 19).

6. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Funatsukuri et al. in view of Hatano et al as applied to claims 1 and 2 above, and further in view of Bornhorst US Patent No. 4,800,474.

The combined references disclose the device structure as recited in the claim, but do not specifically disclose a transmittancy characteristics.

Bornhorst discloses (see col. 3, lines 58-65) a plurality of color filter members having different transmittancy characteristics.

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to incorporate the teachings of Bornhorst with the device of the combined references since that would produce a perceived uniform graduation of colors across a spectrum.

7. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Funatsukuri et al. in view of Hatano et al as applied to claim 1 above, and further in view of Pettit US Patent No. 6,256,073.

The combined references disclose the device structure as recited in the claim, but do not specifically disclose a color filter member having a white area.

Pettit discloses (see col. 5, lines 1-17) a color filter member having a white area.

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to incorporate the teachings of Pettit with the device of Hatano et al, since that would increase image brightness.

***Allowable Subject Matter***

8. Claims 12 and 13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Yoder USPN 6,474,819 discloses projector and display device functionality in a single projector.

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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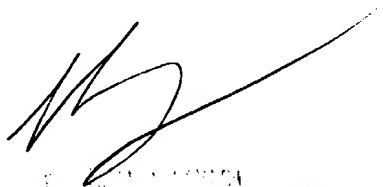
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however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to A. Sefer whose telephone number is (703) 605-1227.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan Flynn can be reached on (703) 308-6601.

ANS  
November 16, 2003



A. SEFER  
Examiner  
Art Unit 2826  
November 16, 2003